**Pre-Calculus**

* 1. **Notes**

**Day 1**

1. **The graph of an equation**

* We will review some basic procedures for sketching the graph of an equation with 2 variables.

**Ex. 1:** Sketch y = 7 – 3x.

**Ex. 2:** Sketch y = x2 – 2 by constructing a table of values.

|  |  |
| --- | --- |
| x | y |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. **Intercepts of a graph**
2. To find x-intercepts, let y = \_\_\_ and solve for \_\_\_.
3. To find y-intercepts, let x = \_\_\_ and solve for \_\_\_.

**Ex. 3:** Find the x and y-intercepts.

1. y = x3 – 4x b) y2 = x + 4
2. **Symmetry**

* **Use a calculator to verify…**

1. y = x2 – 2 is symmetric to the y-axis
2. y = x3 – 4x is symmetric to the origin
3. y2 = x + 4 is symmetric to the x-axis

* **Tests for Symmetry**

1. Sym to y-axis ↔ (x, y) and (\_\_ ,\_\_ ) both work
2. Sym to x-axis ↔ (x, y) and (\_\_,\_\_) both work
3. Sym to origin ↔ (x, y) and (\_\_,\_\_) both work

* **Graphical Depictions of Symmetry**

1. y- axis b) x-axis c) origin

**Ex. 4:** Use intercepts and symmetry to sketch

1. y = x2 – 2

1. x – y2 = 1

c) y = |x – 1|

1. **Circles**

* **Watch as I use the distance formula to derive the standard equation of a circle.**
* **Standard form of the equation of a circle:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Problem Solving Application: “NAG”**

* Numerical Approach
* Analytical Approach
* Graphical Approach

**Ex. 7: Turn in your book to page 8, example 8.**